

Amendments To The Specification

Please amend the Title on pages 1 and 74 to read as follows:

**Hydrodynamic-Force-Responsive Baffle For Liquid Treatment Basin ;
~~Blank For The Baffle, and Methods of Releasing Hydrodynamic Forces~~**

Please amend paragraph [0001] to read as follows:

[0001] This application is a continuation-in-part of co-pending Application No. 10/154,902 filed May 24, 2002, by C. Lonnie Meurer for Solely-Bent Baffle For Liquid Treatment Basin and Blank For and Method of Making The Baffle (the "Parent Application"). Priority under 35 USC 120 is claimed based on that co-pending Application No. 10/154,902. The disclosure of the Parent Application is hereby incorporated by reference.

Please amend paragraph [0017] to read as follows:

[0017] In one embodiment, the present invention fills these needs by providing a preferably stainless steel unbent baffle blank that may be deformed by bending into a configuration that defines a plurality of structural channels of a baffle, wherein the deformed blank need not be held bent in such configuration by any fastener or welding, for example, and wherein the plurality of structural channels render the baffle able to withstand the various respective forces FF and FR, for example, applied to the baffle by the respective incoming liquid and by liquid having a reverse flow direction in the basin, and wherein one of the plurality of structural channels is configured to render the baffle able to withstand the uncontrolled hydrodynamic forces HF, for example, applied to the baffle during an event such as an

earthquake. Such bent baffle (that is not welded or fastened or otherwise secured in the desired bent configuration) is thus referred to as a “soley-bent” baffle to indicate, or describe, the structural characteristic of only being bent into a configuration implementing the desired plurality of structural channels, and to indicate, or describe, the structural characteristic of staying in such bent configuration without being retained in such configuration by welds or fasteners, or by any other structure added to the bent material from which the blank baffle is made. Additionally, the solely-bent baffle may not only have the above-described characteristics, and not only may be configured to withstand the hydrodynamic forces HF without being shattered or broken in response to such hydrodynamic forces HF, but such a baffle does not require immediate post-earthquake maintenance before normally functioning once again to block the normal flow of the liquid having the forces FF and FR ~~HF and HR~~.

Please amend paragraph [0054] to read as follows:

[0054] An invention is described for assuring flow control in a basin both in normal and in uncontrolled abnormal situations, and for filling the above-described needs by providing a baffle for, and methods of, releasing hydrodynamic forces imposed on a baffle without breaking the baffle apart. An embodiment of a baffle may have no configuration-holding, or shape-holding, facilities other than bends that define and hold the shape, or configuration, of structural channels. The present invention also fills such needs by providing methods for forming unbent blanks for making such baffles. The present invention also fills such needs by providing the method of releasing the hydrodynamic forces imposed on the baffle without breaking the baffle apart, and by not requiring immediate post-earthquake maintenance

before normally functioning once again to block the normal flow of the liquid having the forces FF and FR ~~HF and HR~~. It will be obvious, however, to one skilled in the art, that the present invention may be practiced without some or all of these specific details. In other instances, well known process operations have not been described in detail in order not to obscure the present invention.

Please amend paragraph [0078] to read as follows:

[0078] Referring to Figure 12E, the third structural channels 206A-3 and 206B-3 are shown being subject to reaction forces FR (see curved arrows ~~arrow~~ FR). The third structural channels 206A-3 and 206B-3 receive the forces FR from the sheet 203 which is receiving forward forces F (see forward-facing straight arrows ~~arrow~~ F) or reverse forces F ~~R~~ (see reverse-facing straight arrows ~~arrow~~ F ~~R~~) from the flow of the liquid 102. A forward flow ~~F~~ (upward in Figure 12E) causes the sheet 203 to transmit the forward forces F through the first structural channel 206AB-1 (Figure 8D) and through the respective second structural channels 206A-2 and 206B-2 (Figure 12D) in an outward direction to the right shown by curved arrow FR (downward in Figure 12E) to the third structural channel 206A-3 and in an outward direction to the left shown by curved arrow FR (downward in Figure 12E) to the third structural channel 206B-3. A reverse flow ~~FR shown by straight arrow FR~~ (downward in Figure 12E) causes the sheet 203 to transmit the ~~reverse~~ forces FR through the first structural channel 206AB-1 (Figure 8D) and through the respective second structural channels 206A-2 and 206B-2 (Figure 12D). The transmitted force is shown by right side curved arrow FR acting to the left in Figure 12E to the third structural channel

206A-3 and is shown by the left side curved arrow FR acting to the right to the third structural channel 206B-3.

Please amend paragraph [0079] to read as follows:

[0079] Similarly, as shown by the elevational view of in Figure 12C, the third structural channels 206C-3 and 206D-3 are subject to the reaction forces FR (see curved arrows FR). The third structural channels 206C-3 and 206D-3 also receive the reaction ~~reverse~~ forces FR (see curved arrows FR) from the sheet 203 which is receiving forward forces F from the flow of the liquid 102. The sheet 203 transmits the forward forces F (to the right in Figure 12C) through the first structural channel 206CD-1 (Figure 12A) and through the respective second structural channels 206C-2 and 206D-2 (Figure 12B) as respective outward forces FR (see upwardly curved arrow FR) around axis 228 to the third structural channel 206C-3. The forward force F is also applied to the third structural channel 206D-3 as an outward force FR (see downwardly curved arrow FR). The configurations of the respective third structural channels 206A-3, 206B-3, 206C-3, and 206D-3 resist the forces FR from the liquid 102.

Please amend paragraph [0086] to read as follows:

[0086] Figure 15B generally illustrates an end view of many baffles 202H made from the blanks 200H shown in Figure 15A. Each of the baffles 202H is mounted in the orientation shown in Figure 8A with the bent channel tabs 204C and 204D extending horizontally. Figure 15B shows the end channel tabs 204A, for example. The baffles 202H are shown mounted in a vertical array, one above the other. The baffles 202H are normally oriented as shown in solid lines, which is in vertical alignment with respect to each other. The normal orientation is maintained, or substantially maintained, notwithstanding the normal

forces FF and FR. For clarity of illustration, the forces FF and FR are not shown. The force FF acts from left to right on the vertical baffles 202H. The vertically aligned baffles 202H resist the force FF and remain substantially in such vertical alignment. In this fourth embodiment, because of the configuration shown in Figure 15A, the baffle 202H may be mounted on second hinge members 303 (Figures 15B and 18) that cooperate with the hinge apertures 300 shown in Figure 15A. The first hinge member 298 and the second hinge member 303 cooperate to form a hinge 304. The baffles 202H are thus mounted for rotation on the hinge axis 301 of the hinges 304. Figure 15B shows the hydrodynamic forward force HFF, which may also be called a hydrodynamic load. Because of the interruption of the normal processing by the hydrodynamic force HFF, the normal force FF, for example, may not last long. The hydrodynamic force HFF is in addition to any remaining normal force FF, for example. The hydrodynamic force HFF is shown acting on the mounted baffles 202H to rotate the baffles 202H into release, or tilted, orientations shown in dashed lines in Figure 15B. Figure 15B shows that in those release orientations of the baffles 202H, there is hydrodynamic flow of the liquid 102 through the vertical array of the baffles 202H (see arrows 102FLOW). Tilting~~tilting~~ of the baffles 202H occurs in response to the hydrodynamic forces HFF and allows the hydrodynamic flow 102FLOW of the liquid 102 to occur and be resisted by a restorative torque TR shown in Figure 15C.

Please amend paragraph [0088] to read as follows:

[0088] Figure 16 is a perspective ~~partial~~ view similar to Figure 8A illustrating the integral sheet 203H with the channel tabs 204A through 204D bent in the manner shown in Figures 8A through 8C to define a plurality of the structural channels 206. Each of the structural

channels 206A-1 and 206B-1 is shown in Figure 17 having one of the hinge apertures 300, which is shown in detail in Figure 17.

Please amend paragraph [0091] to read as follows:

[0091] Figure 20B illustrates a plan view of the baffle 202H shown in Figure 16, showing yet another embodiment of how the baffle 202H may be mounted. One pier, such as the pier 166 shown in Figure 6, may be used. That pier 166 is typically provided with a first bracket 324 that extends vertically along the vertically extending pier 166. An opposite second pier 166 (not shown) is spaced from the one pier 166 and is also provided with a first bracket 324. Many of the baffles 202 of the first baffle embodiment may be placed in the first brackets 324, one on top of each other to define a surface that does not provide the release of the hydrodynamic forces (e.g., HFF shown in Figure 20B). To provide some amount of such release, Figure 20B shows a second bracket 326 inserted into the lower end of the first bracket 324. The bottom of the second bracket 326 is at an elevation of about two inches above the floor 136 of the basin 100. Another second bracket 326 is also inserted into the lower end of the opposite first bracket 324, at the same elevation above the floor 136 of the basin 100. The second brackets 326 are held in or attached to the channel 324 by one or more fasteners 328. The second brackets 326 are each thus positioned for supporting one of the hinges 304. The structure of the hinges 304 is the same as that described above, such that the baffle 202H may be mounted to rotate on the hinges 304 in response to the hydrodynamic forces HF, and in response to the restorative torque TR. It may be understood that the baffle 202H of this embodiment provides one baffle 202H at the bottom of a vertical array of baffles 202 of the first embodiment shown in Figures 8A through 8C, for example. In addition to providing some of the release in the

event of an earthquake, for example, the bottom baffle 202H may also rotate as described above to permit large equipment to move under the array of baffles 202 without interfering with the array of baffles 202.

Please amend paragraph [0097] to read as follows:

[0097] Referring to Figure 15C again, and still referring to Figure 23A, that typical weight WB of the baffle 202H is shown in terms of the force of gravity FGB. The force of gravity FGB of the weight WB is represented for purposes of description as acting at a point 330 in the middle of the length of the baffle 202H (Figures 23A through 23C). The baffle 202H shown in Figure 23A changes orientation (e.g., tilts) from the vertical orientation under the action of the hydrodynamic forces HFF and HFR and rotates to the release orientation shown in Figure 15C. As such change in orientation occurs, the force of gravity FGB acts on the baffle 202H through the moment arm AB to provide the restorative torque TR. The restorative torque TR acts opposite (clockwise as shown in Figure 15C) to a torque TH resulting from the hydrodynamic force HFF, for example, which acts counterclockwise, for example. When the hydrodynamic force HFF subsides after the event (which may be an earthquake), the restorative torque TR acting on the baffle 202H returns the baffle 202H to the original vertical, or substantially vertical, orientation shown in solid lines in Figure 15A. As described, the hinge aperture 300 is shown in Figure 23A as being near the top of the baffle 202H. As a result, a substantial amount HFFCC of the hydrodynamic force HFF from the event will act counterclockwise on the area of the baffle 202H below the hinge 304 (i.e., on the central area viewed in Figure 16). Only a very small amount HFFC of the hydrodynamic force HFF will act clockwise. Thus, the net hydrodynamic force HFF that results in the hydrodynamic torque TH will be counterclockwise as shown in Figure 15C.

Also, the hydrodynamic force HFF, for example, generally acts horizontally. As a result, as the baffle 202H changes orientation more and more due to the value of the net hydrodynamic torque TH exceeding the value of the restorative torque TR, less and less area of the baffle 202H (as viewed in Figure 16, for example) will be presented to the amounts HFFC and HFFCC of the horizontal hydrodynamic forces HFF. Until the values of the hydrodynamic torque TH and the restorative torque TR balance, or are equal and opposite, the baffle 202H will rotate counterclockwise on the hinges 304 in response to the net hydrodynamic torque TH. As the baffle 202H rotates to such balance orientation, and at such balance orientation, the hydrodynamic flow 102FLOW will result and substantially relieve, or lower, the value of the hydrodynamic force HF that acts on the main area of the baffle 202H between the channels 206. As a result, the baffle 202H is thereby less stressed by the hydrodynamic force HF, and applies less force to the piers 164 and 166 than the redwood boards 160 of the baffles 110 or the first embodiment of the baffles 202 apply to such piers given the same value of the hydrodynamic force HFF in each instance.

Please amend paragraph [0114] to read as follows:

[0114] Another method of the present invention may be understood by reference to Figure 24B, which shows a flow chart 410. This method not only releases the hydrodynamic forces HF imposed on the baffle 202H without breaking the baffle apart, but also restores the baffle 202H to the vertical orientation. The method moves to an operation 412 which calls the operations 402, 404, and 406 of Figure 24A. Thus, the hydrodynamic forces HF imposed on the baffle 202H are released without breaking the baffle apart. The method then moves to an operation 414 of continuing to urge the baffle 202H to restore the baffle 202H to the vertical orientation after cessation of the hydrodynamic forces HF from the

event (e.g., earthquake). Initially, operation 414 applies the force of gravity ~~FTGM~~ ~~FTM~~ on the baffle 202H as described above, which may tend to dampen, or reduce, subsiding hydrodynamic forces HF from the event (earthquake). Over time, the hydrodynamic forces HF from the event will subside more and more, such that the continuing of the urging of the baffle 202H to restore the baffle 202H to the vertical orientation will, after cessation of the hydrodynamic forces HF from the event (e.g., earthquake), return the baffle 202H to the vertical orientation. From time to time as aftershocks occur, operation 414 may be effective to continue to urge the baffle 202H to restore the baffle 202H to the vertical orientation, so that after cessation of the hydrodynamic forces HF from the aftershocks of the event, operation 414 will return the baffle 202H to the vertical orientation, or to the substantially vertical orientation.